Arizona's Common Core Standards
Mathematics

Summary of Changes

Fourth Grade

ARIZONA DEPARTMENT OF EDUCATION
High Academic Standards for Students
State Board Approved June 2010
October 2012 Publication

GRADE 4			
Removed	**Moved to a Different Grade Level**	**Moved from another Grade Level**	**New Standards**
M04-S1C1-05 (2008) Use simple ratios to describe problems in context.	M04-S1C1-03 (2008) Express fractions as fair sharing, parts of a whole, parts of a set, and locations on a real number line. MOVED TO 3.NF.2a & 3.NF.2b	M03-S1C1-02 (2008) MOVED TO 4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
M04-S2C1-01 (2008) Collect, record, organizes, and display data using double bar graphs, single line graphs, or circle graphs.	M04-S2C2-01 (2008) Describe elements of theoretical probability by listing or drawing all possible outcomes of a given event and predicting the outcome using word and number benchmarks. MOVED TO 7.SP.5	M03-S2C3-01 (2008) MOVED TO AZ.4.OA.3.1a Solve a variety of problems based on the multiplication principle of counting. a. Represent a variety of counting problems using arrays, charts, and systematic lists, e.g., tree diagram.	4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. (see glossary Table 2)
M04-S2C1-03 (2008) Use median, mode, and range to describe the distribution of a given data set.	M04-S3C1-01 (2008) Recognize, describe, create, extend, and find missing terms in a numerical sequence involving whole numbers using all four basic operations. MOVED TO 5.OA.3	M03-S2C3-02 (2008) MOVED TO AZ.4.OA.3.1 Solve a variety of problems based on the multiplication principle of counting.	4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*

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M04-S2C1-04 (2008) Compare two sets of related data.	M04-S4C1-07 (2008) Recognize the relationship between a 3-dimensional figure and its corresponding net(s). MOVED TO 6.G.4	M03-S3C3-01 (2008) MOVED TO 4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	4.NF.1 Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
M04-S2C4-01 (2008) Demonstrate the connection between map coloring and vertex coloring.	M04-S4C3-01 (2008) Name, locate, and graph points in the first quadrant of the coordinate plane using ordered pairs. MOVED TO 5.G.1 & 5.G.2	M03-S4C2-02 (2008) MOVED TO 4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	4.NF.3a & 4.NF.3b Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:* $3/8=1/8+1/8+1/8$; $3/8=1/8+2/8$; $2\ 1/8=1+1+1/8=8/8+8/8+1/8$.

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M04-S2C4-02 (2008) Construct vertex-edge graphs to represent concrete situations and identify paths and circuits.	M04-S4C3-02 (2008) Plot line segments in the first quadrant of the coordinate plane using a set of ordered pairs in a table. MOVED TO 5.G.2	M03-S4C4-03 (2008) MOVED TO 4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), …*	4.NF.4a & 4.NF.4b Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.* b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$.* (*In general, $n \times (a/b) = (n \times a)/b$.*)

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M04-S2C4-03 (2008) Solve conflict problems by constructing and coloring vertex-edge graphs.	M04-S4C3-03 (2008) Construct geometric figures with vertices at points on the coordinate plane. MOVED TO 5.G.2	M05-S1C1-01 (2008) MOVED TO 4.NF.6 Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as $^{62}/_{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*	4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express $^{3}/_{10}$ as $^{30}/_{100}$, and add $^{3}/_{10} + ^{4}/_{100} = ^{34}/_{100}$.* (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtractions with unlike denominators in general is not a requirement at this grade.)
M04-S3C4-01 (2008) Identify the change in a quantity over time and make simple predictions.	M04-S4C4-02 (2008) Apply measurement skills to measure length, mass, and capacity using metric units. MOVED TO 3.MD.2	M05-S1C1-02 (2008) MOVED TO 4.OA.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

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M04-S4C1-04 (2008) Recognize which attributes (such as shape or area) change and which do not change when 2-dimensional figures are cut up or rearranged.	M04-S4C4-05 (2008) Describe the change in perimeter or area when one attribute (length or width) of a rectangle changes. MOVED TO 3.MD.8	M05-S2C3-01 (2008) MOVED TO AZ.4.OA.3.1b Solve a variety of problems based on the multiplication principle of counting. c. Analyze relationships among representations and make connections to the multiplication principle of counting.	
M04-S4C1-05 (2008) Recognize and draw congruent figures, and match them in a given collection.		M05-S2C3-02 (2008) MOVED TO AZ.4.OA.3.1 Solve a variety of problems based on the multiplication principle of counting.	
		M05-S3C3-01 (2008) MOVED TO 4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	

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		M05-S4C4-01 (2008) MOVED TO 4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	

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		M05-S4C4-03 (2008) MOVED TO 4.MD.5a & 4.MD.5b Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $1/360$ of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees. M05-S4C4-03 (2008) MOVED TO 4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	
		NOTE: There is an increased expectation at fourth grade to solve multistep problems, determine if a number is prime or composite, measure angles, and multiply a fraction by a whole number. Please see crosswalk for detailed information.	